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No. II.

MR. JAMES JONES'S KILN FOR DRYING
CORN.

SIR, 150, High Holborn, Nov. 30, 1825.

I BEG leave to trouble you to lay before the Society of Arts the inclosed addition to my communication on the subject of the vertical kiln; together with a certificate from a gentleman who has had the greatest experience in the use of them.

I am, Sir,

A. Aikin, Esq.

Secretary, &c. &c.

&c. &c. &c.

JAMES JONES.

SINCE I had the honour of receiving the Society's reward for a vertical kiln (see vol. xli. p. 165), I have had some additional experience, which has enabled me to make such alterations and improvements as I conceive it proper to make the Society acquainted with.

In my communication the kilns are described as being constructed entirely of iron, but after experience showed it to be an improper material, as oxidation of the external cylinder and cones were found to take place, by which (independent of the decay of those parts) the perforations became partially stopped: this effect was also encreased by another cause: for the purpose of preventing oxidation, I have had the external surface rubbed with a mixture of black-lead and olive oil, but the dust from the wheat adhering to it also partially stopped the holes, and in many places these

joint causes closed them entirely, so as to occasion the necessity of pricking them open, as the quantity of work done was necessarily much diminished. This, together with the evident decay, compelled me to resort to a material not subject to destruction by damp, for the external parts; but for the internal parts it was not requisite to make any change, as I did not find the iron subject to the slightest alteration. After a good deal of consideration, I determined to try a compound for which a patent has been obtained by a Mr. Christopher Pope, of Bristol, consisting of lead, tin, and zinc, and which answered perfectly, with the single exception of being rather softer than is desirable. The advantage derived from the use of the new material was very obvious in the last kiln I erected, which was also three feet higher than the preceding ones. It stands in the same house as the second one which was made, and on account of its retaining its full degree of perforation, and its greater size, dries more than the other in the proportion of five to three and a half, each consuming the same quantity of fuel. Another advantage also results from the same cause; namely, the facility afforded to the escape of the insects through the holes, being driven out by the heat; and I have seen good flour produced from wheat, which, if dried in any other way, could not be ground, in consequence of the immense number of maggots it contained, but which, by this mode of drying, were effectually separated. I have also found it advisable to discontinue the perforation of the inner bottom cone, as then all the dust and insects which are screened out by the inside top cone, are retained in the bottom, and prevented from again mixing with the wheat.

In the fire place, I have not made any change, but have placed it further inside, so as to set it in the centre;

an arrangement which also affords an opportunity of contracting the width of the entrance, by which the angle of the upper part is made more acute, thereby offering less obstruction to the descent of the grain. But this alone is not quite sufficient, for wherever an obstacle is presented, however small the angle may be, the flow of the grain is in some degree checked. To remedy this I have placed over the inclined sides of the entrance-frame a second inclined plane, perforated with large holes; this secondary plane allows the grain to pass through and descend down the first one, at the same time sustaining the pressure of wheat immediately over it, which would otherwise prevent, in a great measure, the descent down the angle.

That the kind of drying effected by the vertical kilns is superior to the ordinary mode, is very satisfactorily proved by the circumstance of the bran being brought out from three to four pounds per bushel lighter than from any other mills in the neighbourhood, being on the average eight pounds per bushel, which difference is evidently an additional profit of so much flour, and at the same time the flour is highly approved on account of its superior quality.

For the Society's greater satisfaction, I beg leave to enclose a testimonial from E. F. Howis Esq., the proprietor of large mills at Crowborough, in Sussex, for whom I have erected three kilns, viz., two for wheat, and one for oats, pease, &c.

CERTIFICATE.

SIR, Crowborough Lodge, Sussex, Nov. 25, 1825.

THE kilns, which you have erected for me at this place, fully answer the utmost expectations I had formed

therefrom: they each dry thirty quarters of wheat at the expense of two bushels of coals, in the time of a common working day at this season of the year, and I doubt not if the kilns are kept at work night and day, which as a measure of economy should be the case, more than double thirty quarters would be dried. I consider your kiln of great utility, and most sincerely hope you will derive all the advantage you merit from the discovery thereof.

You are perfectly at liberty to refer any gentleman to me upon the subject of your kilns, as I shall feel most happy to assist towards their general adoption.

I am, Sir,

&c. &c. &c.

E. F. HOWIS.

To Mr. Jones, Jun., Holborn.

No. III.

PREVENTION OF FORGERY.

The THANKS of the Society were presented to Messrs. PERKINS and HEATH, for their liberal compliance with the wish of the Society to be furnished with one of their most recent and improved Specimens for Bank Notes. The following letter was received on the subject from those gentlemen.

SIR,

69, Fleet-street, Dec, 19, 1825.

IN submitting to the consideration of the Society for the encouragement of Arts, Manufactures, and Commerce, specimens for their renewed Report upon the prevention of Bank-note Forgeries, we deem it unnecessary to make